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| 10/776,586 | 02/11/2004 | Percy H. Carter | QA0286 NP | 5361 |

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| EXAMINER | |
|---|---|
| KOSACK, JOSEPH R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1626 | |

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| 06/12/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/776,586 | CARTER ET AL. | |
| | Examiner | Art Unit | |
| | Joseph Kosack | 1626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5,7-10 and 14-25* is/are pending in the application.

4a) Of the above claim(s) *14-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

Claims 1-5, 7-10, and 14-25 are pending in the instant application.

### *Amendments*

The amendment filed April 17, 2007 has been acknowledged and has been entered into the application file.

### *Election/Restrictions*

Applicant has postulated that the search of the entire application is not a serious burden on the Examiner as the search can be accomplished purely in class 548. This is not found to be persuasive as class 548 contains thousands of patents and patent application which would take an enormous amount of time to go through individually. Additionally, MPEP 803.02 takes precedence in this instance.

### *Status of the Claims*

Previously withdrawn claims 7-8 are now currently examined as they now depend off of a claim within the scope of the invention.

### *Previous Claim Objections*

Claims 1-5 and 9-10 were objected to for containing elected and non-elected subject matter. The non-elected subject matter has been cancelled, and the objection is withdrawn.

### *Previous Claim Rejections - 35 USC § 103*

Claims 1-5 and 9-10 were rejected in the previous action under 35 U.S.C. 103(a) as being unpatentable over Choi-Sledeski et al. (WO 99/62904 A1) in view of Patani et al. (*Chem Rev. 1996*, 3147-3176) and In re Wood (199 USPQ 137).

Applicant has traversed the rejection on the grounds that the amendment to claim 1 obviates the rejection by inserting limitations from claim 6.

This is not found to be persuasive because claim 6 was drawn to X being $CHR^{16}R^{17}$ and would not be within the scope of claim 1. Additionally, the compounds of Choi-Sledeski et al. are still relevant as the linker between hetrocycle and aryl ring can be $-(CH_2)_2NR''(CH_2)-$ which meets the instant claims where X is $CHR^{16}NR^{17}$ and m and l are 0. Therefore, the amendment is not sufficient to overcome the rejection and the rejection stands.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

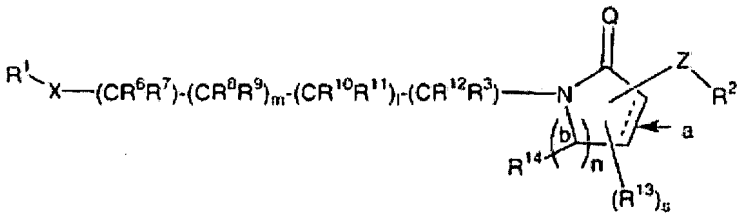
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

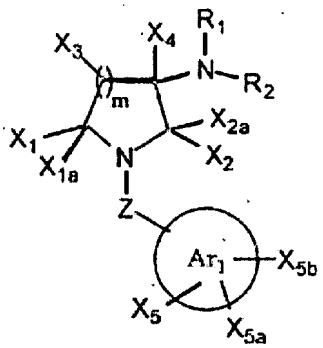
Claims 1-5 and 7-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Choi-Sledeski et al. (WO 99/62904 A1) in view of Patani et al. (*Chem Rev. 1996*, 3147-3176) and In re Wood (199 USPQ 137).

The instant invention is drawn to compounds and compositions of Formula I



where: n is 1; Z is -$NR^{18}C(O)$-; X is as defined for claim 1; Q is O; and all other substituents will be as defined.

*Determination of the scope and content of the prior art (MPEP §2141.01)*



Choi-Sledeski et al. teach compounds of the formula:

where $X_2$ and $X_{2a}$ are taken together to form oxo, Z is $-(CH_2)_2NR''(CH_2)-$, $R_2$ is $R_3S(O)_{1-2}$-, and all other substituents are as defined.

*Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)*

Choi-Sledeski et al. do not teach the proviso set forth in claim 1 that $R^3$ is not H if $R^6$ is H or the amide in the Z group of the instant compounds.

*Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)*

Hydrogen and methyl are deemed obvious variants. In re Wood, 199 USPQ 137

Patani et al. teach the non-classical bioisosteric replacement of a sulfonyl for a carbonyl with comparable pharmaceutical activity and that they are art recognized replacements. See pages 3166-3167, especially Table 39 and Figure 67.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to follow the synthetic scheme of Choi-Sledeski et al., substitute methyl for hydrogen where needed, and replace the sulfonyl for a carbonyl to make the claimed invention with a reasonable expectation of success. The motivation to do so is provided by Choi-Sledeski et al. Choi-Sledeski et al. teach the use of the synthesized compounds to be factor Xa inhibitors. See page 2, lines 8-10.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

***Conclusion***

Claims 1-5 and 7-10 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Kosack whose telephone number is (571)-272-5575. The examiner can normally be reached on M-F 6:30 A.M. until 4:00 P.M. The examiner has every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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